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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,288	02/07/2002	Atsushi Yokoyama	500.41154X00	7915

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EXAMINER

TRAN, DALENA

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant N .

10/067,288

Applicant(s)

YOKOYAMA ET AL.

Examiner

Dalena Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### **Notice to Applicant(s)**

1. This application has been examined. Claims 1-9 are pending.
2. The prior art submitted on 2/7/02 and 5/7/03 have been considered.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claim 9, is rejected under 35 U.S.C.102(e) as being anticipated by Tamasho et al. (6,397,981).

As per claim 9, Tamasho et al. disclose a brake device comprising: an actuator which is provided on a wheel side of a vehicle having a suspension and generates a braking force by being electrically driven (see the abstract; column 2, lines 13-58; and column 11, lines 10-67), a drive controller for receiving a signal regarding the braking force from a vehicle motion controller and driving actuator (see column 4, line 1 to column 5, line 16), wherein drive controller is provided on a vehicle body side of vehicle and, in a portion connecting the vehicle body side and the wheel side, a signal line connecting drive controller and actuator is constructed by one cable covered with a same sheath (see column 5, line 19 to column 6, line 52; column 8, line 35 to column 9, line 63).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,6, and 8, are rejected under 35 U.S.C.103(a) as being unpatentable over Tamasho et al. (6,397,981) in view of Hora et al. (6,109,702).

As per 1, Tamasho et al. disclose a brake device comprising: an actuator which is provided on a wheel side of a vehicle having a suspension and generates a braking force by being electrically driven (see the abstract; column 2, lines 12-58; and column 11, lines 10-67), a drive controller for receiving a signal regarding the braking force from a vehicle motion controller and driving actuator (see column 4, line 1 to column 5, line 16). Tamasho et al. do not disclose bi-directional multiplex communication. However, Hora et al. disclose drive controller is attached to actuator side and makes communication with vehicle motion controller provided on vehicle body side of vehicle by bi-directional multiplex communication (see column 2, line 40 to column 3, line 55; and column 6, line 35 to column 7, line 35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Tamasho et al. by combining drive controller is attached to actuator side and makes communication with vehicle motion controller provided on vehicle body side of vehicle by bi-directional multiplex communication for controlling the braking system of vehicle.

As per claim 6, Tamasho et al. do not disclose a wheel speed sensor. However, Hora

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et al. disclose a wheel speed sensor for detecting a rotational speed of the wheel and drive controller are electrically connected (see column 6, lines 16-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Tamasho et al. by combining a wheel speed sensor for detecting a rotational speed of the wheel and drive controller are electrically connected for detecting rotational motion of a motor wheel vehicle.

As per 8, Tamasho et al. disclose a brake device wherein an air pressure sensor receiver for receiving a radio signal from an air pressure sensor provided for a tire and drive controller are electrically connected (see column 3, lines 39-67).

7. Claims 2-5, are rejected under 35 U.S.C.103(a) as being unpatentable over Tamasho et al. (6,397,981), and Hora et al. (6,109,702) as applied to claim 1 above, and further in view of Sinn et al. (6,142,580).

As per claim 2, Tamasho et al., and Hora et al. do not disclose a signal line and power line are constructed by one cable covered with a same sheath. However, Sinn et al. disclose in a portion connecting the vehicle body side and the wheel side, a signal line connecting drive controller and vehicle motion controller and a power line for supplying an electric power to drive controller are constructed by one cable covered with a same sheath (see the abstract; and column 1, line 40 to column 2, line 23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Tamasho et al., and Hora et al. by combining a signal line connecting drive controller and vehicle motion controller and a power line for supplying an electric power to drive controller are constructed by one cable covered with a same sheath for carrying communication between vehicle motion controller and a power line.

As per claim 3, Tamasho et al., and Hora et al. do not disclose twisted pair wire, a coaxial wire. However, Sinn et al. disclose power line of cable is a twisted pair wire and signal line of cable is a coaxial wire (see column 3, line 30 to column 4, line 37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Tamasho et al., and Hora et al. by combining power line of cable is a twisted pair wire and signal line of cable is a coaxial wire for protection against the harsh environment.

Also, as per claim 4, Sinn et al. disclose communication information of drive controller and vehicle motion controller is transmitted by using a power line for supplying an electric power to drive controller (see column 4, line 38 to column 5, line 9).

As per claim 5, Tamasho et al., and Hora et al. do not disclose radio communication. However, Sinn et al. disclose communication between drive controller and vehicle motion controller is made by radio communication (see column 5, lines 10-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Tamasho et al., and Hora et al. by combining communication between drive controller and vehicle motion controller is made by radio communication to carry the communication between vehicle braking system.

8. Claim 7, is rejected under 35 U.S.C.103(a) as being unpatentable over Tamasho et al. (6,397,981), and Hora et al. (6,109,702) as applied to claim 1 above, and further in view of Paielli (6,384,721).

As per claim 7, Tamasho et al., and Hora et al. do not disclose a pad abrasion sensor. However, Paielli discloses a pad abrasion sensor for detecting an abrasion of a brake pad and drive controller are electrically connected (see the abstract; and column 2, line 25 to column 3,

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line 38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Tamasho et al., and Hora et al. by combining a pad abrasion sensor for detecting an abrasion of a brake pad and drive controller are electrically connected for monitoring brake wear.

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

. Anderson et al. (5,473,990)

. Williford (5,572,187)

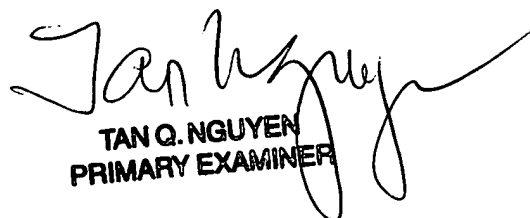
. Shimada et al. (6,598,945)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 703-308-8223. The examiner can normally be reached on M-F (7:30 AM-5:30 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

/dt  
September 20, 2003

  
TAN Q. NGUYEN  
PRIMARY EXAMINER